

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1 (previously presented). A process for producing a reactive polyurethane containing free isocyanate groups, said process consisting of the step of reacting a monomeric asymmetrical diisocyanate with a polyhydric alcohol, wherein:

- (a) the monomeric asymmetrical diisocyanate used contains at least 95% by weight of diphenylmethane-2,4'-diisocyanate (2,4'-MDI) and less than 5% by weight of 4,4'-MDI and 2,2'-MDI, the 2,2'-MDI content being under 0.4;
- (b) at least one diol with a number average molecular weight of 60 g/mol to 2,000 g/mol is used as the polyhydric alcohol;
- (c) the ratio of isocyanate groups to hydroxyl groups is a value of 1.05:1 to 2.0:1; and
- (d) the reactive polyurethane thereby obtained has a content of monomeric asymmetrical diisocyanate of at most 0.3% by weight.

2 (original). A process as claimed in claim 1, wherein the reactive polyurethane has a Brookfield viscosity at 100°C, as measured by ISO 2555, in the range from 20 mPas to 3,000 mPas.

3 (canceled).

4 (original). A process as claimed in claim 1, wherein at least one linear or lightly branched C₂₋₁₈ alkanediol is used as the diol.

5 (original). A process as claimed in claim 1, wherein said reacting is carried out in the presence of at least one catalyst selected from the group consisting of organometallic compounds of tin, lead, iron, titanium, bismuth and zirconium.

6 (original). A process as claimed in claim 1, wherein said reacting is carried out between 30°C and 130°C in the presence of a tin(IV) compound as catalyst.

7 (original). A process as claimed in claim 1, wherein said reacting is carried out at 40 to 75°C.

8 (original). A process as claimed in claim 1, wherein the ratio of isocyanate groups to hydroxyl groups is adjusted to a value of 1.05:1 to 1.5:1.

9 (original). A process as claimed in claim 1, wherein said reacting is carried out between 25°C and 100°C.

10 (original). A process as claimed in claim 1, wherein said at least one diol contains secondary hydroxy groups.

11 (original). A process as claimed in claim 1, wherein said reacting is carried out in the presence of an aprotic solvent.

12 (previously presented). A process as claimed in claim 1, wherein said reactive polyurethane contains not more than 0.1% by weight monomeric asymmetrical diisocyanate.

13 (original). A process as claimed in claim 1, wherein the reactive polyurethane has an NCO content of from 4.5 to 10% NCO.

14 (previously presented). A process as claimed in claim 1, wherein said at least one diol has a number average molecular weight of 200 g/mol to 1,500 g/mol.

15 (original). A process as claimed in claim 1, wherein said at least one diol is a polyether.

16 (original). A process as claimed in claim 1, wherein said at least one diol is selected from the group consisting of reaction products of low molecular weight polyhydric alcohols and alkylene oxides containing 2 to 4 carbon atoms.

17 (original). A process as claimed in claim 1, wherein said at least one diol is

polypropylene glycol.

18 (original). A process as claimed in claim 1, wherein the ratio of isocyanate groups to hydroxyl groups is adjusted to a value of 1.4:1 to 1.9:1.

19 (canceled).

20 (canceled)

21 (currently amended). ~~A process as claimed in claim 1, consisting of an additional step of~~ A process for producing a reactive polyurethane containing free isocyanate groups, said process consisting of:

(i) reacting a monomeric asymmetrical diisocyanate with a polyhydric alcohol, wherein:

(a) the monomeric asymmetrical diisocyanate used contains at least 95% by weight of diphenylmethane-2,4'-diisocyanate (2,4'-MDI) and less than 5% by weight of 4,4'-MDI and 2,2'-MDI, the 2,2'-MDI content being under 0.4;

(b) at least one diol with a number average molecular weight of 60 g/mol to 2,000 g/mol is used as the polyhydric alcohol;

(c) the ratio of isocyanate groups to hydroxyl groups is a value of 1.05:1 to 2.0:1;

(d) the reactive polyurethane thereby obtained has a content of monomeric asymmetrical diisocyanate of at most 0.3% by weight; and

(ii) combining the reactive polyurethane product of step (i) with at least one additional component selected from the group consisting of catalysts, polymeric compounds, stabilizers, adhesion-promoting additives, fillers, pigments, plasticizers, and solvents.

22-23 (canceled).

24 (currently amended). ~~A process as claimed in claim 1,~~ A process for producing a

reactive polyurethane containing free isocyanate groups, said process consisting of the step of reacting a monomeric asymmetrical diisocyanate with a polyhydric alcohol, wherein:

- (a) the monomeric asymmetrical diisocyanate used contains at least 95% by weight of diphenylmethane-2,4'-diisocyanate (2,4'-MDI) and less than 5% by weight of 4,4'-MDI and 2,2'-MDI, the 2,2'-MDI content being under 0.4;
- (b) the polyhydric alcohol comprising at least one diol with a number average molecular weight of 60 g/mol to 2,000 g/mol and at least one polyol having a number average molecular weight of 2,000 g/mol to 20,000 g/mol selected from the group consisting of polyesters, polyethers, polyacetals, and polycarbonates is additionally reacted with the monomeric asymmetrical diisocyanate; wherein the ratio of isocyanate groups to hydroxyl groups is a value of 1.2:1 to 5:1 for the additional reaction 1.05:1 to 2.0; and
- (c) the reactive polyurethane thereby obtained has a content of monomeric asymmetrical diisocyanate of at most 0.3% by weight.

25-27 (canceled).

28 (currently amended). A process for producing an isocyanate-terminated reactive polyurethane composition, said process comprising reacting ~~a reactive polyurethane containing free isocyanate groups produced in accordance with the process of claim 1~~ with at least one polyol with a reactive polyurethane containing free isocyanate groups made by a process consisting of the step of reacting a monomeric asymmetrical diisocyanate with a polyhydric alcohol, wherein:

- (a) the monomeric asymmetrical diisocyanate used contains at least 95% by weight of diphenylmethane-2,4'-diisocyanate (2,4'-MDI) and less than 5% by weight of 4,4'-MDI and 2,2'-MDI, the 2,2'-MDI content being under 0.4;
- (b) at least one diol with a number average molecular weight of 60 g/mol to 2,000 g/mol is used as the polyhydric alcohol;
- (c) the ratio of isocyanate groups to hydroxyl groups is a value of 1.05:1 to 2.0:1; and
- (d) the reactive polyurethane thereby obtained has a content of monomeric asymmetrical diisocyanate of at most 0.3% by weight.

29 (previously presented) The process of claim 28, wherein an NCO:OH ratio of up to 10 is used.

30 (previously presented) The process of claim 28, wherein an NCO:OH ratio of from 1.2:1 to 5:1 is used.

31 (previously presented) The process of claim 28, wherein said at least one polyol is a polyester polyol.

32. (previously presented) The process of claim 1, wherein the reactive polyurethane has an NCO content of from 4 to 12% NCO.

33. (previously presented) The process of claim 1, wherein the reactive polyurethane has an NCO content of from 5 to 8% NCO.